SUPPORTING STATEMENT

Examinations & Testing of Electrical Equipment including Exam, Testing, and Maintenance of High Voltage Longwalls - 30 C.F.R. §§ 75.351, 75.512, 75.703, 75.800-4, 75.820, 75.821, 75.900-4, 75.1001-1, 77.502, 77.800-2, and 77.900-2

A. JUSTIFICATION

1. Explain the circumstances that make the collection of information necessary. Identify any legal or administrative requirements that necessitate the collection. Attach a copy of the appropriate section of each statute and of each regulation mandating or authorizing the collection of information.

The Federal Mine Safety and Health Act of 1977 (Mine Act) and 30 C.F.R. Parts 75 and 77, mandatory safety standards for coal mines, make this collection of information necessary. Section 103(h) of the Mine Act, 30 U.S.C. § 813, authorizes MSHA to collect information necessary to carry out its duty in protecting the safety and health of miners

It has long been known that inadequate maintenance of electric equipment is a major cause of serious electrical accidents in the coal mining industry. It is imperative that mine operators adopt and follow an effective maintenance program to ensure that electric equipment is maintained in a safe operating condition if electrocutions, mine fires, and mine explosions are to be prevented. The subject regulations require the mine operator to establish an electrical maintenance program by specifying minimum requirements for the examination, testing, and maintenance of electric equipment. The regulations also contain recordkeeping requirements that in some instances may help operators in implementing an effective maintenance program.

(a) Examinations of Electric Equipment

(1) 30 C.F.R. § 75.512 requires that all electric equipment be frequently examined, tested and maintained by a qualified person to assure safe operating conditions and that a record of such examinations be kept. 30 C.F.R.

§ 75.512-2 specifies that the required examinations and tests be conducted at least weekly.

(2) 30 C.F.R. § 75.703-3(d)(11) requires that all grounding diodes be tested, examined and maintained as electric equipment and records of these activities kept in accordance with the provisions of 30 C.F.R. **§** 75.512.

(3) 30 C.F.R. **§** 77.502 requires that electric equipment be frequently examined, tested and maintained by a qualified person to ensure safe operating conditions and that a record of such examinations be kept. 30 C.F.R. **§** 77.502-2 requires that the required examinations and tests be conducted at least monthly.

(b) Examinations of High-Voltage Circuit Breakers

(1) 30 C.F.R. § 75.800 requires that circuit breakers protecting high-voltage circuits which enter the underground area of a coal mine be properly tested and maintained as prescribed by the Secretary. 30 C.F.R. § 75.800-3 requires that such circuit breakers be tested and examined at least once each month. Section 75.800-4 requires that a record of the examinations and tests be kept.

(2) Section 75.821(a) requires testing and examination of each unit of high-voltage longwall equipment and circuits to determine that electrical protection, equipment grounding, permissibility, cable insulation, and control devices are being properly maintained to prevent fire, electrical shock, ignition or operational hazards. These tests and examination, including the activation of the ground-fault test circuit, are required once every 7 days. Section 75.821(b) requires that each ground-wire monitor and associated circuits be tested at least once every 30 days. Section 75.821(d) requires that at the completion of examinations and tests the person making the examinations and tests must certify that they have been conducted. In addition, a record must be made of any unsafe condition found and any corrective action taken.

(3) 30 C.F.R. **§** 77.800, requires that circuit breakers protecting high-voltage portable or mobile equipment be properly tested and maintained. Section 77.800-1 requires that such circuit breakers be tested and examined at least once each month. Section 77.800-2 requires a record of each test, examination, repair, or adjustment of all circuit breakers protecting high-voltage circuits.

(c) Examinations of Low- and Medium-Voltage Circuits

(1) 30 C.F.R. § 75.900 requires that circuit breakers protecting low- and medium-voltage power circuits serving three-phase alternating-current equipment be properly tested and maintained. Section 75.900-3 requires that such circuit breakers be tested and examined at least once each month. Section 75.900-4 requires that a record of the required examinations and tests be kept.

(2) 30 C.F.R. **§** 77.900 requires that circuit breakers protecting low- and medium-voltage circuits which supply power to portable or mobile three-phase alternating-current equipment be properly tested and maintained. Section 77.900-1 requires that such circuit breakers be tested and examined at least once each month. Section 77.900-2 requires that a record of the examinations and tests be kept.

(d) Tests and Calibrations of Automatic Circuit interrupting Devices

30 C.F.R. **§** 75.1001-1(b) requires that automatic circuit interrupting devices that protect trolley wires and trolley feeder wires be tested and calibrated at intervals not to exceed six months. Section 75.1001-1(c) requires that a record of the tests and calibrations be kept.

(e) Testing and Calibration of Atmospheric Monitoring Systems

30 C.F.R. § 75.351(n)(3) requires testing and calibration of sensors every 31 days. Section 75.351(o) requires that a record be made of the alert or alarm signal showing date,

time, type of sensor, the location of the sensor producing the signal and the reason for activation.

2. Indicate how, by whom, and for what purpose the information is to be used. Except for a new collection, indicate the actual use the agency has made of the information received from the current collection.

The respondents for the paperwork provisions of the subject regulations are coal mine operators. The records of tests and examinations are reviewed by coal miners, coal mine officials, and MSHA and State inspectors. The records are intended to verify that examinations and tests were conducted and give insight into the hazardous conditions that have been encountered and those that may be encountered. These records greatly assist those who use them in making decisions during accident investigations to establish root causes and to prevent similar occurrences. These decisions will ultimately affect the safety and health of miners.

Miners examine the records to determine if electric equipment is safe to operate and to determine if reported safety defects have been corrected. Mine officials examine the records to evaluate the effectiveness of their electrical maintenance programs, to determine that the required tests and examinations have been conducted, and to determine if reported safety defects have been corrected. MSHA and State inspectors review the records to determine if the required tests and examinations have been conducted and to identify units of electric equipment that may pose a potential safety hazard, and to evaluate the effectiveness of the coal mine operator's electrical maintenance programs. By comparing the records with the actual condition of electric equipment, MSHA inspectors may, in some cases, be able to identify weaknesses in the coal mine operator's electrical maintenance programs and require that these weaknesses be corrected.

3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological collection techniques or

other forms of information technology, e.g., permitting electronic submission of responses, and the basis for the decision for adopting this means of collection. Also, describe any consideration of using information technology to reduce burden.

Mine operators may retain the records in whatever method they choose, which may include utilizing computer technology. The subject regulations do not specify how the required records must be kept. They could be kept in the traditional manner or stored electronically, provided the records are secure and not susceptible to loss or alteration. No improved information technology has been identified that would reduce the burden.

4. Describe efforts to identify duplication. Show specifically why any similar information already available cannot be used or modified for use for the purpose(s) described in 2 above.

MSHA knows of no other Federal or State reporting requirements that would duplicate the reporting requirements contained in this final rule.

5. If the collection of information impacts small businesses or other small entities (Item 5 of OMB Form 83-I), describe any methods used to minimize burden.

This information does not have a significant impact on small businesses or other small entities.

6. Describe the consequence to Federal program or policy activities if the collection is not conducted or is conducted less frequently, as well as any technical or legal obstacles to reducing burden.

Reduction of these requirements could result in increased hazards to miners. A reduction in the frequency of examinations and tests could allow existing unsafe conditions to develop, jeopardizing the safety of miners.

7. Explain any special circumstances that would cause an information collection to be conducted in a manner:

- **requiring respondents to report information to the agency more often than quarterly;**
- **requiring respondents to prepare a written response to a collection of information in fewer than 30 days after receipt of it;**
- **requiring respondents to submit more than an original and two copies of any document;**
- **requiring respondents to retain records, other than health, medical, government contract, grant-in-aid, or tax records for more than three years;**
- **in connection with a statistical survey that is not designed to produce valid and reliable results that can be generalized to the universe of study;**
- **requiring the use of a statistical data classification that has not been reviewed and approved by OMB;**
- **that includes a pledge of confidentiality that is not supported by authority established in statute or regulation, that is not supported by disclosure and data security policies that are consistent with the pledge, or which unnecessarily impedes sharing of data with other agencies for compatible confidential use; or**
- **requiring respondents to submit proprietary trade secret, or other confidential information unless the agency can demonstrate that it has instituted procedures to protect the information's confidentiality to the extent permitted by law.**

Collection of information is consistent with the guidelines in 5 C.F.R. § 1320.5.

8. If applicable, provide a copy and identify the data and page number of publication in the Federal Register of the agency's notice, required by 5 CFR 1320.8(d), soliciting comments on the information collection prior to submission to OMB. Summarize public comments received in response to that notice and describe actions taken by the agency in response to these comments. Specifically address comments received on cost and hour burden. Describe efforts to consult with persons outside the agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and recordkeeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported. Consultation with representatives of those from whom information is to be obtained or those who must compile records should occur at least once every 3 years -- even if the collection of information activity is the same as in prior periods. There may be circumstances that may preclude consultation in a specific situation. These circumstances should be explained.

In accordance with 5 C.F.R § 1320.8(d), MSHA will publish the proposed information collection requirements in the Federal Register, notifying the public that these information collection requirements are being reviewed in accordance with the Paperwork Reduction Act of 1995 and giving interested persons 60 days to submit comments.

9. Explain any decision to provide any payment or gift to respondents, other than remuneration of contractors or grantees.

MSHA does not provide payments or gifts to the respondents.

10. Describe any assurance of confidentiality provided to respondents and the basis for the assurance in statute, regulation, or agency policy.

MSHA has made no assurance of confidentiality.

11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly

considered private. This justification should include the reasons why the agency considers the questions necessary, the specific uses to be made of the information, the explanation to be given to persons from whom the information is requested, and any steps to be taken to obtain their consent.

There are no questions of a sensitive nature.

12. Provide estimates of the hour burden of the collection of information. The statement should:

- **Indicate the number of respondents, frequency of response, annual hour burden, and an explanation of how the burden was estimated. Unless directed to do so, agencies should not conduct special surveys to obtain information on which to base hour burden estimates. Consultation with a sample (fewer than 10) of potential respondents is desirable. If the hour burden on respondents is expected to vary widely because of differences in activity, size, or complexity, show the range of estimated hour burden, and explain the reasons for the variance. Generally, estimates should not include burden hours for customary and usual business practices.**

- **If this request for approval covers more than one form, provide separate hour burden estimates for each form and aggregate the hour burdens in Item 13 of OMB Form 83-I.**

- **Provide estimates of annualized cost to respondents for the hour burdens for collections of information, identifying and using appropriate wage rate categories. The cost of contracting out or paying outside parties for information collection activities should not be included here. Instead, this cost should be included in Item 13.**

Currently there are 43 longwall units affected by **§§** 75.820 and 75.821.

Section 75.820(b)and(e): MSHA estimates that it will take an electrician (earning $30.27 an hour in 2006) an average of 5 minutes to lock out and tag a disconnecting device as specified

in § 75.820(b) and (e) and that an average of one lock out and tag will occur each day at each longwall unit. Therefore, assuming 50 7-day workweeks per year, the annual burden hours will be 1,253.67 hours (0.0833 hours x 350 days/year x 43 longwall units). The annual burden costs will be $37,948.44 (1,253.67 hours x $30.27 per hour).

0.0833 hour x 350 days/year x 43 longwall units = 1,254 hours
1,254 hours x $30.27 per hour = $37,958.58

Section 75.821: MSHA assumes that it will take an electrician (earning $30.27 an hour) one hour per week to test and examine each unit of high-voltage longwall equipment and circuits under §75.821(a). Assuming 50 work weeks per year and 43 longwall units, the total annual burden hours for examining equipment and circuits will be 2,150 hours (1 hour x 50 weeks/year x 43 longwall units). The total annual burden costs will be $65,080.50 (2,150 hours x $30.27).

1 hour x 50 weeks/year x 43 longwall units = 2,150 hours
2,150 hours x $30.27 = $65,080.50

§ 75.821(d) requires the electrician to certify by signature and date that the examinations required by § 75.821 have been conducted and to make a record of any unsafe conditions found and any corrective action taken. MSHA assumes it will take the electrician 6 minutes to produce this record and certify that the examination has been conducted. Therefore, the annual burden hours for recording and certifying will be 215 hours (0.10 hour x 50 weeks/year x 43 longwall units). The annual burden costs will be $6,508.05 (215 x $30.27).

0.10 hour x 50 weeks/year x 43 longwall units = 215 hours
215 hours x $30.27 = $6,508.05

Table 1

Cite/ Reference	Number of Respondents	Number of Responses	Annual Burden Hours	Annual Burden Costs
Section 75.820(b) and (e)	43	15,050	1,254	$ 37,959
Section 75.821(a)	43	2,150	2,150.00	$ 65,081
Section 75.821(d)	43	2,150	215.00	$ 6,508
Total	*******	**19,350**	**3,619**	**$109,548**

Examinations of Electric Equipment

The number of respondents, frequency of response, and burden hours are shown on Table 2. The burden was determined using the average salary of $71.34 per hour for a mine supervisor (U.S. Coal Mine Salaries, Wages and Benefits - 2006 Survey Results, Western Mine Eng, Inc./weighted average for coal supervisor).

30 C.F.R. § 75.512. The number of underground coal mining sections utilizing electric equipment is approximately 874 and each mining section has on average 6 pieces of electrical equipment. The number of other pieces of underground electrical installations is approximately 4,906. This equipment is required to be examined weekly and the results of each examination are required to be recorded. It is estimated that each examination will take 30 minutes (0.50 hour) to conduct and 6 minutes (0.10 hour) to record. (NOTE: There is only one record made for each section of the mine or 6 pieces of equipment.).

Recordkeeping:

(874 sections + 4,906 other electrical installations) x 50 weeks x 0.10 hour x 1 record/section in the mine = 28,900 hours

Number of responses = 289,000

Examination time:

(5,244 units of equipment + 4,906 other electrical installations) x 50 weeks x 0.50 hour = 253,750 hours

Section 75.512 Burden Hours:
28,900 hours + 253,750 hours = 282,650 hours

Section 75.512 Burden Costs:
282,650 hours x $71.34 = $20,164,251.00

§ 75.703-3(d)(11). All grounding diodes shall be tested, examined and maintained as electrical equipment in accordance with the provisions of **§** 75.512. Therefore, recordkeeping in connection with diode testing calculations are included as part of the recordkeeping burden of 30 C.F.R. § 75.512.

Section 77.502-2. The number of electrical installations at surface coal mines and surface facilities is approximately 22,606; these installations are required to be examined monthly under § 77.502 and the results of each examination are required to be recorded. It is estimated that each examination will take 1 hour to complete and 15 minutes (0.25 hour) to record.

Recordkeeping:
22,606 exams x 12 months x 0.25 hour = 67,818 hours

Examination time:
22,606 elec. exams x 12 months x 1 hour = 271,272 hours

Where a standard requires a record to be kept, the examination time and the recording time are burden hours with no reductions for “certification” when no hazards are reported.

Section 77.502-2 Burden Hours: 339,090 hours
Section 77.502-2 Burden Costs: 339,090 x $71.34 = $24,190,680.60

Examinations of High-Voltage Circuit Breakers

Sections 75.800-3 & -4 and 77.800-1 & -2. The number of circuit breakers protecting high-voltage circuits extending underground is approximately 874. The number of circuit breakers protecting

high-voltage circuits extending to portable and mobile surface equipment is approximately 1,765. Each circuit breaker is required to be examined and tested once a month and the results of each examination/test recorded. It is estimated that each examination will take 30 minutes (0.50 hour), and require 15 minutes (0.25 hour) to record the results.

Surface:

Recordkeeping:
1,765 circuit breakers x 12 months x 0.25 hour = 5,295 hours

Examination time:
1,765 circuit breakers x 12 months x 0.50 hour = 10,590 hours

Underground:

Recordkeeping:
874 circuit breakers x 12 months x 0.25 hour = 2,622 hours

Examination time:
874 circuit breakers x 12 months x 0.50 hour = 5,244 hours

Sections 75.800-3 & 4 and 77.800-1 & 2 Burden Hours:
Surface hours + Underground hours = 23,751 hours

Sections 75.800-3 & 4 and 77.800-1 & 2 Burden Costs:
23,571 x $71.34 = $1,694,396.34

Examinations of Low- and Medium-Voltage Circuit Breakers

Section 75.900-3 & 4. The number of power centers containing circuit breakers protecting low- and medium-voltage power circuits serving three-phase underground equipment is approximately 5,743. The circuit breakers in each such power center are required to be examined and tested once a month and the results of such examination/tests recorded. It is estimated that each examination/test will take 1 hour and require 15 minutes (0.25 hour) to record the results.

Recordkeeping:
5,743 power centers x 12 months x 0.25 hour = 17,229 hours

Examination time:
5,743 power centers x 12 months x 1 hour = 68,916 hours

Section 75.900-3 & 4 Burden Hours: 86,145 hours
Section 75.900-3 & 4 Burden Costs:
86,145 hours x $71.34 = $6,145,584.30

Section 77.900-1 & 2. The number of installations containing circuit breakers protecting low- and medium voltage alternating-current equipment located on the surface is approximately 1,507. The circuit breakers in each such installation are required to be examined and tested once a month. It is estimated that each examination will take an average of 30 minutes (0.50 hour) to complete and 15 minutes (0.25 hour) to record the results.

Recordkeeping:
1,507 installations x 12 months x 0.25 hour = 4,521 hours

Examination time:
1,507 installations x 12 months x 0.50 hour = 9,042 hours

Section 77.900-1 & 2 Burden Hours: 13,563 hours

Section 77.900-1 & 2 Burden Costs: 13,563 hours x $71.34 = $967,584.42

Tests and Calibrations of Automatic Circuit Interrupting Devices

Section 75.1001-1(b)&(c). The number of trolley circuit breakers in underground coal mines is approximately 962. Each such circuit breaker is required to be tested and calibrated once every six months and the results of such tests and calibrations recorded. It is estimated that each test will take approximately 1 hour to complete and 15 minutes (0.25 hour) to record the results.

Recordkeeping:
962 trolley circuit breakers x 2 records per year x 0.25 hour = 481 hours

Examination time:

962 trolley circuit breakers x 2 examinations per year x 1 hour = 1,924 hours

Section 75.1001-1(b) & (c) Burden Hours: 2,405 hours
Section 75.1001-1(b) & (c) Burden Costs: 2,405 hours x $71.34 = $171,572.70

Test and Calibration of Atmospheric Monitoring Systems

Sections 75.351 (n)(3) and (o). The number of atmospheric monitoring systems in underground coal mines is approximately 622. Each monitoring system is required to be tested and calibrated once every 31 days and the results of such tests and calibrations are required to be recorded. It is estimated that each test/calibration will take 1 hour to complete and an average of 15 minutes (0.25 hour) to record the results.

Recordkeeping:
622 monitoring systems x 12 records per year x 0.25 hour = 1,866 hours

Examination time:
622 monitor examinations x 12 calibrations per year x 1 hour = 7,464 hours

Sections 75.351 (n)(3) and (o) Burden Hours: 9,330 hours
Sections 75.351 (n)(3) and (o) Burden Costs: 9,330 hours x $71.34 = $665,602.20

Table 2

Cite/ Reference	Respondents	Responses	Annual Burden Hours	Annual Burden Costs
Section 75.512 and 75.703	874	289,000	282,650	$20,164,251
Section 77.502-2	874	271,272	339,090	$24,190,680
Section 75.800 and 77.800	874	31,668	23,751	$1,694,396
Sections 75.900	874	68,916	86,145	$6,145,584

Section 77.900	874	1,924	13,563	$967,584
Section 75.1001-1	874	1,836	2,405	$171,573
Section 75.351	874	7,464	9,330	$665,602
TOTAL	**********	**672,080**	**756,934**	**$53,999,670**

GRAND TOTAL HOURS (Table 1 and Table 2): 760,553

GRAND TOTAL BURDEN COSTS (Table 1 and Table 2): $54,109,218

13. Provide an estimate of the total annual cost burden to respondents or record keepers resulting from the collection of information. (Do not include the cost of any hour burden shown in Items 13 and 15.)

- **The cost estimate should be split into two components: (a) a total capital and start-up cost component (annualized over its expected useful life); and (b) a total operation and maintenance and purchase of services component. The estimates should take into account costs associated with generating, maintaining, and disclosing or providing the information. Include descriptions of methods used to estimate major cost factors including system and technology acquisition, expected useful life of capital equipment, the discount rate(s), and the time period over which costs will be incurred. Capital and start-up costs include, among other items, preparations for collecting information such as purchasing computers and software; monitoring, sampling, drilling and testing equipment; and record storage facilities.**

- **If cost estimates are expected to vary widely, agencies should present ranges of cost burdens and explain the reasons for the variance. The cost of purchasing or contracting out information collection services should be a part of this cost burden estimate. In developing cost burden estimates, agencies may consult with a sample of respondents (fewer than 10), utilize the 60-day pre-OMB submission public comment process, and use existing**

economic or regulatory impact analysis associated with the rulemaking containing the information collection, as appropriate.

- **Generally, estimates should not include purchases of equipment or services, or portions thereof, made: (1) prior to October 1, 1995, (2) to achieve regulatory compliance with requirements not associated with the information collection, (3) for reasons other than to provide information or keep records for the government, or (4) as part of customary and usual business or private practices.**

MSHA does not anticipate that there will be any costs associated with this information collection other than those designated under number 12 above.

14. Provide estimates of annualized cost to the Federal government. Also, provide a description of the method used to estimate cost, which should include quantification of hours, operational expenses (such as equipment, overhead, printing, and support staff), and any other expense that would not have been incurred without this collection of information. Agencies also may aggregate cost estimates from Items 12, 13, and 14 in a single table.

There is no significant cost to the Federal Government. The review/inspection of records is just one aspect of the annual inspection. Complete inspections are required under **§** 103(a) of the Mine Act and are required 4 times a year for underground mines and twice a year for surface operations.

15. Explain the reason for any program changes or adjustments reporting in Items 13 or 14 of the OMB Form 83-1.

There is a decrease of 483,938 responses (from 1,175,368 to 691,430) and a decrease of 111,048 burden hours(from 871,601 to 760,553) due to fewer mining operations over the last 3 year period. The burden cost remains at $0.

16. For collections of information whose results will be published, outline plans for tabulation, and publication. Address any complex analytical techniques that will be used. Provide the time schedule for the entire project, including beginning and ending dates of the collection of information, completion of report, publication dates, and other actions.

MSHA has no plans to publish the information obtained through this information collection.

17. If seeking approval not to display the expiration date for OMB approval of the information collection, explain the reasons that display would be inappropriate.

There are no forms associated with this request, therefore MSHA is not seeking approval to either display or not display the expiration date for OMB approval of this information collection.

18. Explain each exception to the certification statement identified in Item 19, "Certification for Paperwork Reduction Act Submission," of OMB 83-I.

There are no certification exceptions identified with this information collection.

B. Collection of Information Employment Statistical Methods

The agency should be prepared to justify its decision not to use statistical methods in any case where such methods might reduce burden or improve accuracy of results. When Item 17 on the Form OMB 83-I is checked "Yes," the following documentation should be included in the Supporting Statement to the extent that it applies to the methods proposed:

1. Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection methods to be used. Data on the number of entities (e.g., establishments, State and local government units, households, or persons) in the universe covered by the collection and in the corresponding sample are to be

provided in tabular form for the universe as a whole and for each of the strata in the proposed sample. Indicate expected response rates for the collection as a whole. If the collection had been conducted previously, include the actual response rate achieved during the last collection.

2. Describe the procedures for the collection of information including:

- **Statistical methodology for stratification and sample selection,**
- **Estimation procedure,**
- **Degree of accuracy needed for the purpose described in the justification,**
- **Unusual problems requiring specialized sampling procedures, and**
- **Any use of periodic (less frequently than annual) data collection cycles to reduce burden.**

3. Describe methods to maximize response rates and to deal with issues of non- response. The accuracy and reliability of information collected must be shown to be adequate for intended uses. For collections based on sampling, a special justification must be provided for any collection that will not yield "reliable" data that can be generalized to the universe studied.

4. Describe any tests of procedures or methods to be undertaken. Testing is encouraged as an effective means of refining collections of information to minimize burden and improve utility. Tests must be approved if they call for answers to identical questions from 10 or more respondents. A proposed test or set of tests may be submitted for approval separately or in combination with the main collection of information.

5. Provide the name and telephone number of individuals consulted on statistical aspects of the design and the name of the agency unit, contractor(s), grantee(s) or other person(s)

who will actually collect and/or analyze the information for the agency.

This collection of information does not employ statistical methods and statistical analysis is not required by the regulation, therefore, questions 1 through 5 do not apply.

Federal Mine Safety & Health Act of 1977, Public Law 91-173, as amended by Public Law 95-164

An Act

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled. That this Act may be cited as the "Federal Mine Safety and Health Act of 1977".

TITLE I--GENERAL

INSPECTIONS, INVESTIGATIONS, AND RECORDKEEPING

SEC. 103. (h) In addition to such records as are specifically required by this Act, every operator of a coal or other mine shall establish and maintain such records, make such reports, and provide such information, as the Secretary or the Secretary of Health, Education, and Welfare may reasonably require from time to time to enable him to perform his functions under this Act. The Secretary or the Secretary of Health, Education, and Welfare is authorized to compile, analyze, and publish, either in summary or detailed form, such reports or information so obtained. Except to the extent otherwise specifically provided by this Act, all records, information, reports, findings, citations, notices, orders, or decisions required or issued pursuant to or under this Act may be published from time to time, may be released to any interested person, and shall be made available for public inspection.

[Code of Federal Regulations]
[Title 30, Volume 1]
[Revised as of July 1, 2006]
From the U.S. Government Printing Office via GPO Access
[**CITE: 30 C.F.R. § 75.351**]
[Page 495-498]

TITLE 30--MINERAL RESOURCES

CHAPTER I--MINE SAFETY AND HEALTH ADMINISTRATION, DEPARTMENT OF LABOR

PART 75--MANDATORY SAFETY STANDARDS--UNDERGROUND COAL MINES--
Table of Contents

Subpart D—Ventilation

30 CFR § 75.351 - Atmospheric monitoring system (AMS).

(n) Examination, testing, and calibration.

(1) At least once each shift when belts are operated as part of a production shift, sensors used to detect carbon monoxide or smoke in accordance with § § 75.350(b), and 75.350(d), and alarms installed in accordance with § 75.350(b) must be visually examined.

(2) At least once every seven days, alarms for AMS installed in accordance with § § 75.350(b), and 75.350(d) must be functionally tested for proper operation.

(3) At intervals not to exceed 31 days--

(i) Each carbon monoxide sensor installed in accordance with § § 75.340(a)(1)(ii), 75.340(a)(2)(ii), 75.350(b), or 75.350(d) must be calibrated in accordance with the manufacturer's calibration specifications. Calibration must be done with a known concentration of carbon monoxide in air sufficient to activate the alarm;

(ii) Each smoke sensor installed in accordance with § § 75.340(a)(1)(ii), 75.340(a)(2)(ii), 75.350(b), or 75.350(d) must be functionally tested in accordance with the manufacturer's calibration specifications;

(iii) Each methane sensor installed in accordance with § § 75.323(d)(1)(ii) or 75.362(f) must be calibrated in accordance with the manufacturer's calibration specifications. Calibration must be done with a known concentration of methane in air sufficient to activate an alarm.

(iv) If the alert or alarm signals will be activated during calibration of sensors, the AMS operator must be notified prior to and upon completion of calibration. The AMS operator must notify miners on affected working sections, areas where mechanized mining equipment is being installed or removed, or other areas designated in the approved emergency evacuation and firefighting program of instruction (§ 75.1502) when calibration will activate alarms and when calibration is completed.

(4) Gases used for the testing and calibration of AMS sensors must be traceable to the National Institute of Standards and Technology reference standard for the specific gas. When these reference standards are not available for a specific gas, calibration gases must be traceable to an analytical standard which is prepared using a method traceable to the National Institute of Standards and Technology. Calibration gases must be within 2.0 percent of the indicated gas concentration.

(o) Recordkeeping.

(1) When an AMS is used to comply with § § 75.323(d)(1)(ii), 75.340(a)(1)(ii), 75.340(a)(2)(ii), 75.350(b), 75.350(d), or 75.362(f), individuals designated by the operator must make the following

records by the end of the shift in which the following event(s) occur:

(i) If an alert or alarm signal occurs, a record of the date, time, location and type of sensor, and the cause for the activation.

(ii) If an AMS malfunctions, a record of the date, the extent and cause of the malfunction, and the corrective action taken to return the system to proper operation.

(iii) A record of the seven-day tests of alert and alarm signals; calibrations; and maintenance of the AMS must be made by the person(s)performing these actions.

(2) The person entering the record must include their name, date, and signature in the record.

(3) The records required by this section must be kept either in a secure book that is not susceptible to alteration, or electronically in a computer system that is secure and not susceptible to alteration. These records must be maintained separately from other records and identifiable by a title, such as the `AMS log.'

[Code of Federal Regulations]
[Title 30, Volume 1]
[Revised as of July 1, 2006]
From the U.S. Government Printing Office via GPO Access
[**CITE**: **30 C.F.R. § 75.512**]

[Page 522]

TITLE 30--MINERAL RESOURCES

CHAPTER I--MINE SAFETY AND HEALTH ADMINISTRATION, DEPARTMENT OF LABOR

PART 75--MANDATORY SAFETY STANDARDS--UNDERGROUND COAL MINES--Table of Contents

Subpart F--Electrical Equipment--General

Sec. 75.**512** Electric equipment; examination, testing and maintenance.

[Statutory Provision]

All electric equipment shall be frequently examined, tested, and properly maintained by a qualified person to assure safe operating conditions. When a potentially dangerous condition is found on electric equipment, such equipment shall be removed from service until such condition is corrected. A record of such examinations shall be kept and made available to an authorized representative of the Secretary and to the miners in such mine.

[35 FR 17890, Nov. 20, 1970, as amended at 60 FR 33723, June 29, 1995]

[Code of Federal Regulations]
[Title 30, Volume 1]
[Revised as of July 1, 2003]
From the U.S. Government Printing Office via GPO Access
[**CITE**: **30 C.F.R. § 75.703**]

[Page 532]

TITLE 30--MINERAL RESOURCES

CHAPTER I--MINE SAFETY AND HEALTH ADMINISTRATION, DEPARTMENT OF LABOR

PART 75--MANDATORY SAFETY STANDARDS--UNDERGROUND COAL MINES--
Table of Contents

Subpart H--Grounding

Sec. 75.**703** Grounding offtrack direct-current machines and the enclosures of related detached components.

[Statutory Provisions]

The frames of all offtrack direct-current machines and the enclosures of related detached components shall be effectively grounded, or otherwise maintained at no less safe voltages, by methods approved by an authorized representative of the Secretary.

[Code of Federal Regulations]
[Title 30, Volume 1]
[Revised as of July 1, 2003]
From the U.S. Government Printing Office via GPO Access
[**CITE**: **30 C.F.R. §75.800**]

[Page 535]

TITLE 30--MINERAL RESOURCES

CHAPTER I--MINE SAFETY AND HEALTH ADMINISTRATION, DEPARTMENT OF LABOR

PART 75--MANDATORY SAFETY STANDARDS--UNDERGROUND COAL MINES--
Table of Contents

Subpart I--Underground High-Voltage Distribution

Sec. 75.**800** High-voltage circuits; circuit breakers.

[Statutory Provisions]

High-voltage circuits entering the underground area of any coal mine shall be protected by suitable circuit breakers of adequate interrupting capacity which are properly tested and maintained as prescribed by the Secretary. Such breakers shall be equipped with devices to provide protection against under-voltage grounded phase, short circuit, and overcurrent.

[Code of Federal Regulations]
[Title 30, Volume 1]
[Revised as of July 1, 2006]
From the U.S. Government Printing Office via GPO Access
[**CITE**: **30 C.F.R. § 75.820**]

[Page 541-542]

TITLE 30--MINERAL RESOURCES

CHAPTER I--MINE SAFETY AND HEALTH ADMINISTRATION, DEPARTMENT OF LABOR

PART 75--MANDATORY SAFETY STANDARDS--UNDERGROUND COAL MINES--
Table of Contents

Subpart I--Underground High-Voltage Distribution

Sec. 75.**820** Electrical work; troubleshooting and testing.

(a) Electrical work on all circuits and equipment associated with high-voltage longwalls must be performed only by persons qualified under Sec. 75.153 to perform electrical work on all circuits and equipment.

(b) Prior to performing electrical work, except for troubleshooting and testing of energized circuits and equipment as provided for in paragraph (d) of this section, a qualified person must do the following:

(1) Deenergize the circuit or equipment with a circuit-interrupting device.

(2) Open the circuit disconnecting device. On high-voltage circuits, ground the power conductors until work on the circuit is completed.

(3) Lock out the disconnecting device with a padlock. When more than one qualified person is performing work, each person must install an individual padlock.

(4) Tag the disconnecting device to identify each person working and the circuit or equipment on which work is being performed.

(c) Each padlock and tag must be removed only by the person who installed them, except that, if that person is unavailable at the mine, the lock and tag may be removed by a person authorized by the operator, provided--

(1) The authorized person is qualified under paragraph (a) of this section; and

(2) The operator ensures that the person who installed the lock and tag is aware of the removal before that person resumes work on the affected circuit or equipment.

(d) Troubleshooting and testing of energized circuits must be performed only—

(1) On low- and medium-voltage circuits;

(2) When the purpose of troubleshooting and testing is to determine voltages and currents; and

(3) By persons qualified to perform electrical work and who wear protective gloves on circuits that exceed 40 volts in accordance with the following table:

[Page 542]

Circuit voltage	Type of glove required
Greater than 120 volts (nominal) (not intrinsically safe)	Rubber insulating gloves with leather protectors.
40 volts to 120 volts (nominal) (both intrinsically safe and non-intrinsically safe)	Either rubber insulating gloves with leather protectors or dry work gloves.
Greater than 120 volts (nominal) (intrinsically safe)	Either rubber insulating gloves with leather protectors or dry work gloves.

(4) Rubber insulating gloves must be rated at least for the nominal voltage of the circuit when the voltage of the circuit exceeds 120 volts nominal and is not intrinsically safe.

(e) Before troubleshooting and testing a low- or medium-voltage circuit contained in a compartment with a high-voltage circuit, the high-voltage circuit must be deenergized, disconnected, grounded, locked out and tagged in accordance with paragraph (b) of this section.

(f) Prior to the installation or removal of conveyor belt structure, high-voltage cables extending from the section power center to longwall equipment and located in the belt entries must be:

(1) Deenergized; or

(2) Guarded in accordance with Sec. 75.816 of this part, at the location where the belt structure is being installed or removed; or

(3) Located at least 6.5 feet above the mine floor.

[Code of Federal Regulations]
[Title 30, Volume 1]
[Revised as of July 1, 2006]
From the U.S. Government Printing Office via GPO Access
[**CITE**: **30CFR75**.**821**]

[Page 542]

TITLE 30--MINERAL RESOURCES

CHAPTER I--MINE SAFETY AND HEALTH ADMINISTRATION, DEPARTMENT OF LABOR

PART 75--MANDATORY SAFETY STANDARDS--UNDERGROUND COAL MINES--
Table of Contents

Subpart I--Underground High-Voltage Distribution

Sec. 75.**821** Testing, examination and maintenance.

(a) At least once every 7 days, a person qualified in accordance with Sec. 75.153 to perform electrical work on all circuits and equipment must test and examine each unit of high-voltage longwall equipment and circuits to determine that electrical protection, equipment grounding, permissibility, cable insulation, and control devices are being properly maintained to prevent fire, electrical shock, ignition, or operational hazards from existing on the equipment. Tests must include activating the ground-fault test circuit as required by Sec. 75.814(c).

(b) Each ground-wire monitor and associated circuits must be examined and tested at least once each 30 days to verify proper operation and that it will cause the corresponding circuit-interrupting device to open.

(c) When examinations or tests of equipment reveal a fire, electrical shock, ignition, or operational hazard, the equipment must be removed from service immediately or repaired immediately.

(d) At the completion of examinations and tests required by this section, the person who makes the examinations and

tests must certify by signature and date that they have been conducted. A record must be made of any unsafe condition found and any corrective action taken. Certifications and records must be kept for at least one year and must be made available for inspection by authorized representatives of the Secretary and representatives of miners.

[Code of Federal Regulations]
[Title 30, Volume 1]
[Revised as of July 1, 2003]
From the U.S. Government Printing Office via GPO Access
[**CITE**: **30 C.F.R. § 75.900**]

[Page 537]

TITLE 30--MINERAL RESOURCES

CHAPTER I--MINE SAFETY AND HEALTH ADMINISTRATION, DEPARTMENT OF LABOR

PART 75--MANDATORY SAFETY STANDARDS--UNDERGROUND COAL MINES--Table of Contents

Subpart J--Underground Low- and Medium-Voltage Alternating Current Circuits

Sec. 75.**900** Low- and medium-voltage circuits serving three-phase alternating current equipment; circuit breakers.

[Statutory Provisions]

Low- and medium-voltage power circuits serving three-phase alternating current equipment shall be protected by suitable circuit breakers of adequate interrupting capacity which are properly tested and maintained as prescribed by the Secretary. Such breakers shall be equipped with devices to provide protection against undervoltage, grounded phase, short circuit, and overcurrent.

[Code of Federal Regulations]
[Title 30, Volume 1]
[Revised as of July 1, 2003]
From the U.S. Government Printing Office via GPO Access
[**CITE**: **30CFR75**.**1001**-1]

[Page 539]

TITLE 30--MINERAL RESOURCES

CHAPTER I--MINE SAFETY AND HEALTH ADMINISTRATION, DEPARTMENT OF LABOR

PART 75--MANDATORY SAFETY STANDARDS--UNDERGROUND COAL MINES--Table of Contents

Subpart K--Trolley Wires and Trolley Feeder Wires

Sec. 75.**1001**-1 Devices for overcurrent protection; testing and calibration requirements; records.

(a) Automatic circuit interrupting devices that will deenergize the affected circuit upon occurrence of a short circuit at any point in the system will meet the requirements of Sec. 75.**1001**.

(b) Automatic circuit interrupting devices described in paragraph (a) of this section shall be tested and calibrated at intervals not to exceed six months. Testing of such devices shall include passing the necessary amount of electric current through the device to cause activation. Calibration of such devices shall include adjustment of all associated relays to ±15 percent of the indicated value. An authorized representative of the Secretary may require additional testing or calibration of these devices.

(c) A record of the tests and calibrations required by paragraph (b) of this section shall be kept, and shall be made available, upon request, to an authorized representative of the Secretary.

[38 FR 29998, Oct. 31, 1973, as amended at 60 FR 33723, June 29, 1995]

[Code of Federal Regulations]
[Title 30, Volume 1]
[Revised as of July 1, 2006]
From the U.S. Government Printing Office via GPO Access
[**CITE**: **30 C.F.R. § 77.502**]

[Page 640]

TITLE 30--MINERAL RESOURCES

CHAPTER I--MINE SAFETY AND HEALTH ADMINISTRATION, DEPARTMENT OF LABOR

PART 77--MANDATORY SAFETY STANDARDS, SURFACE COAL MINES AND SURFACE WORK AREAS OF UNDERGROUND COAL MINES--Table of Contents

Subpart F--Electrical Equipment--General

Sec. 77.**502** Electric equipment; examination, testing, and maintenance.

Electric equipment shall be frequently examined, tested, and properly maintained by a qualified person to assure safe operating conditions. When a potentially dangerous condition is found on electric equipment, such equipment shall be removed from service until such condition is corrected. A record of such examinations shall be kept.

[Code of Federal Regulations]
[Title 30, Volume 1]
[Revised as of July 1, 2006]
From the U.S. Government Printing Office via GPO Access
[**CITE**: **30 C.F.R. §77.800**]

[Page 646]

TITLE 30--MINERAL RESOURCES

CHAPTER I--MINE SAFETY AND HEALTH ADMINISTRATION, DEPARTMENT OF LABOR

PART 77--MANDATORY SAFETY STANDARDS, SURFACE COAL MINES AND SURFACE WORK AREAS OF UNDERGROUND COAL MINES--

SUBPART I – SURFACE HIGH-VOLTAGE DISTRIBUTION

30 C.F.R. § 77.**800**

High-voltage circuits; circuit breakers.

High-voltage circuits supplying power to portable or mobile equipment shall be protected by suitable circuit breakers of adequate interrupting capacity which are properly tested and maintained and equipped with devices to provide protection against under voltage, grounded phase, short circuit and overcurrent. High-voltage circuits supplying power to stationary equipment shall be protected against overloads by either a circuit breaker or fuses of the correct type and capacity.

[Code of Federal Regulations]
[Title 30, Volume 1]
[Revised as of July 1, 2006]
From the U.S. Government Printing Office via GPO Access
[**CITE**: **30 C.F.R. §77.900**]

[Page 648]

TITLE 30--MINERAL RESOURCES

CHAPTER I--MINE SAFETY AND HEALTH ADMINISTRATION, DEPARTMENT OF LABOR

PART 77--MANDATORY SAFETY STANDARDS, SURFACE COAL MINES AND SURFACE WORK AREAS OF UNDERGROUND COAL MINES

Subpart J--Low- and Medium-Voltage Alternating Current Circuits

§ 77.**900** Low- and medium-voltage circuits serving portable or mobile three-phase alternating current equipment; circuit breakers.

Low- and medium-voltage circuits supplying power to portable or mobile three-phase alternating current equipment shall be protected by suitable circuit breakers of adequate interrupting capacity which are properly tested and maintained and equipped with devices to provide protection against undervoltage, grounded phase, short circuit, and over-current.